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EXAMINER

BASHORE, WILLIAM L

ART UNIT PAPER NUMBER

2176

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/381,899

Applicant(s)

ANDERSSON, JAN

Examiner

William L. Bashore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2,4,5,8-10,13-15,19,21,22,25-27,30-32 and 41-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 4-5, 8-10, 13-15, 19, 21-22, 25-27, 30-32, 41-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This action is responsive to the following communications: amendment, filed 12/16/2005.
2. Claims 2, 4-5, 8-10, 13-15, 19, 21-22, 25-27, 30-32, 41-57 pending. Claims 56, 57 have been added.  
Claims 41, 45, 49, 50, 51, 53, 54, 55, 56, 57 are independent claims.
3. Due to the new grounds of objection/rejection not necessitated by amendment, this action is Non-final.

### *Claim Rejections - 35 USC § 112*

4. **The following is a quotation of the first paragraph of 35 U.S.C. 112:**

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claims 49, 51-53, 55 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.**

**In regard to independent claim 49, the phrase “if any” as used in “...search document maps previously stored, if any”, or “generated with document maps previously store, if any” implies a situation where no previously stored document maps exist. This specific condition is not enabled in the Specification. Instead, Applicant’s Specification appears to require maps (known keys) to be pre-stored, as disclosed in Figure 2 item 214 (third box from top).**

**In regard to independent claims 51, 53, 55,** the phrases “*in the absence of any inputted templates for identifying said plurality of documents before processing;*”, and “*in the absence of preprocessing inputted data location information*”, and “*in the absence of preprocessing templates*” is not enabled in the Specification.

Applicant’s Specification discloses that if identification is unsuccessful, then self-learning with a form definition is accomplished. The form definition consists of a “template” or a set of rules, etc. (see Specification page 8 lines 23-26), therefore Applicant’s Specification requires pre-existing known keys (Figure 2 item 214) and form definitions (templates) Figure 2 item 224. Said known keys and templates must be inputted at some point before initial form scanning.

**In regard to dependent claim 52,** said claim is rejected for fully incorporating the deficiencies of its respective base claim.

**6. The following is a quotation of the second paragraph of 35 U.S.C. 112:**

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**7. Claims 2, 4-5, 8-10, 13-15, 41-45, 49, 51-53, 55 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

**In regard to independent claim 41,** the last limitation of claim 41 claiming said automatically storing step of document maps of presented documents of said plurality of presented documents that do not coincide...etc... “*automatically occurs as each document map fails to be identified according to predetermined limits for agreement.*” is based upon a limitation which is previously part of a boolean OR limitation. If this

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limitation is never initially chosen, then the quoted limitation above cannot occur, however, it is presently claimed that it does occur.

In addition, the phrase “*automatically occurs*” within said quoted limitation above is vague and indefinite, since said limitation which it refers to is “*automatically storing*” the document maps anyway.

For purposes of art rejection, claim 41 will be given a possible interpretation of automatically identifying presented documents, etc. (the limitation subsequent to the claimed Boolean OR: “*automatically identifying presented documents....previously stored in said computer system,*”). The limitation after this will be ignored.

**In regard to dependent claims 2, 4-5, 8-10, 13-15, 42-44,** said claims are rejected for fully incorporating the deficiencies of their respective base claim.

**In regard to independent claim 45,** said claim contains the following Boolean OR limitation: “*said computer system has structure either to indicate recognition of a map or to indicate a lack of recognition of such map*”. The subsequent limitation is based upon a limitation which is previously part of said boolean OR limitation presented above. If this limitation is never initially chosen, then the next limitation (“*when there is a lack of recognition...*”) cannot occur, however, it is presently claimed that it does occur.

For purposes of art rejection, claim 45 will be given a possible interpretation of a computer structure indicating recognition of a map (the limitation leading up to the claimed Boolean OR). The limitation after this (“*when there is a lack of recognition...with a factor of probability.*”) will be ignored.

**In regard to independent claim 49,** the phrase “*if any*” as used in “*...search document maps previously stored, if any*”, or “*generated with document maps previously store, if any*” implies a situation where no previously stored document maps exist. Since Applicant’s Specification appears to shed no light on how this

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is accomplished, and since there are various ways this can be accomplished, it is unclear which method is used, therefore this phrase is vague and indefinite.

**In regard to independent claims 51, 53, 55**, the phrase “*in the absence of any inputted templates for identifying said plurality of documents before processing;*”, and “*in the absence of preprocessing inputted data location information*”, and “*in the absence of preprocessing templates*” is vague and indefinite. It is unclear how recognition can be successful if no stored information exists to guide the analysis accordingly. Since Applicant’s Specification appears to shed no light on how this is accomplished, and since there are various ways this can be accomplished, it is unclear which method is used, therefore this limitation is vague and indefinite.

**In regard to dependent claim 52**, said claim is rejected for fully incorporating the deficiencies of its respective base claim.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 4-5, 8-9, 21-22, 25-27, 30-31, 41-48, 50-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pizano et al. (hereinafter Pizano), U.S. Patent Number 5,293,429 issued March 8, 1994, in view of Applicant’s Admitted Prior Art (hereinafter AAPA).**

**Regarding independent claims 41, and 45,** Pizano teaches scanning (*i.e.*, providing) a plurality of unknown forms. (Pizano, col. 2, lines 64-66; Fig. 1.)

Pizano further teaches generation of a form map based on designs on said unknown form(s) for identifying information contained thereon inasmuch as Pizano's feature extraction is equivalent to the generation of a form map. (Pizano, col. 2, lines 64-66; Fig. 1).

Pizano does not specifically teach said plurality of documents having "*a variety of formats not predefined*", nor does it teach "*containing data in locations not predefined*". However AAPA teaches at Specification page 2 lines 15-18, of specifying "a method...by means of a means for the same, of forms whose design and information is not known in advance". See also page 4 lines 9-13. Since Applicant admits that the above teaching is well known (Specification page 8 lines s 1-3 "On the whole, the means used in the present invention are well known to a skilled person in the technical field,..."), therefore It would have been obvious to one of ordinary skill in the art at the time of the invention to apply AAPA to Pizano, providing Pizano a way to recognize a wide variety of forms that do not conform accordingly.

Pizano further teaches searching and comparing the generated form map with stored, registered maps in a map storage means. (Pizano, col. 4, lines 58-67.)

Pizano further teaches indicating agreement according to the limits for agreement when agreement is found inasmuch as Pizano discloses form identification as output when a match is achieved. (Pizano, col. 2, line 67 – col.3, line 2.). Pizano does not specifically teach a "*factor of probability*". However AAPA teaches at Specification page 6 lines 23-24: "All candidates are associated with a factor of merit or a probability that they are the current invoice 10". Since Applicant admits that the above teaching is well known (Specification page 8 lines s 1-3 "On the whole, the means used in the present invention are well known to a skilled person in the technical field,..."), therefore It would have been obvious to one of ordinary skill in the art at the time of the invention to apply AAPA to Pizano, providing Pizano a way to judge the level of agreement for matching forms.

Regarding **dependent claim 4**, claim 4 incorporates substantially similar subject matter as claimed in claim 41, and in further view of the following, is rejected along the same rationale.

Pizano discloses “the use of horizontal and vertical lines as features for identifying a form.” (Pizano, col. 3, lines 5-6; Figs. 5 and 6.)

Regarding **dependent claim 21**, Pizano discloses “the use of horizontal and vertical lines as features for identifying a form.” (Pizano, col. 3, lines 5-6; Figs. 5 and 6.)

Regarding **dependent claims 5 and 22**, Pizano discloses generating horizontal and vertical keys by dividing the unknown form into a pre-determined number of horizontal and vertical segments along x and y axes, respectively, wherein each segment is equivalent to one horizontal or vertical key position. (Pizano, col. 6, lines 35-51; Fig 5.)

Regarding **dependent claims 8 and 25**, Pizano discloses horizontal and vertical keys constituting line keys used in the searching and comparison step inasmuch as Pizano teaches the comparison of line key patterns during this step. (Pizano, col. 6, lines 36-40; Fig. 5.)

Regarding **dependent claims 9 and 26**, Pizano does not teach sorting, but it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pizano to sort regions (*i.e.*, line keys) in the storage means according to the number of markings inasmuch as it would have been obvious to extend Pizano’s method of assigning one or no tags to a region (Pizano, col. 6, lines 55-59) to a method that assigns a plurality of tags to a region because one of ordinary skill would have recognized that this would have provided more information for the comparison step.



**In regard to dependent claims 42, 43, 44,** Pizano teaches a knowledgebase (Pizano Figure 1 item 18). Claims 43, 44 incorporate substantially similar subject matter as claimed in claims 41 and 5, and are rejected along the same rationale.

**In regard to claims 46, 47, 48,** claims 46, 47, 48 reflect the apparatus comprising computer readable instructions used for implementing the methods as claimed in claims 42, 43, 44, and are rejected along the same rationale. Pizano teaches a knowledgebase (Pizano Figure 1 item 18).

**In regard to independent claim 50,** Pizano teaches scanning (*i.e.*, providing) an unknown form(s). (Pizano, col. 2, lines 64-66; Fig. 1.)

Pizano further teaches generation of a form map based on designs on said unknown form(s) for identifying information contained thereon inasmuch as Pizano's feature extraction is equivalent to the generation of a form map. (Pizano, col. 2, lines 64-66; Fig. 1).

Pizano further teaches searching and comparing the generated form map with stored, registered maps in a map storage means. (Pizano, col. 4, lines 58-67.)

Pizano does not specifically teach searching stored identities from previously processed forms. However, However AAPA teaches at Specification page 2 lines 18-20, page 7 lines 3-5, and page 4 lines 9-13, of specifying an adaptive method including learning and registering of forms as patterns without filled-in text, with new line keys stored accordingly for future processing. Since Applicant admits that the above teaching is well known (Specification page 8 lines s 1-3 "On the whole, the means used in the present invention are well known to a skilled person in the technical field,..."), therefore It would have been obvious to one of ordinary skill in the art at the time of the invention to apply AAPA to Pizano, providing Pizano a way to adaptively recognize a wide variety of forms that do not conform accordingly, making the recognition process more accurate.

Pizano further teaches indicating agreement according to the limits for agreement when agreement is found inasmuch as Pizano discloses form identification as output when a match is achieved. (Pizano, col. 2, line 67 – col.3, line 2.)

**In regard to independent claim 51**, Pizano teaches scanning (*i.e.*, providing) an unknown form(s). (Pizano, col. 2, lines 64-66; Fig. 1.)

Pizano further teaches generation of a form map based on designs on said unknown form(s) for identifying information contained thereon inasmuch as Pizano's feature extraction is equivalent to the generation of a form map. (Pizano, col. 2, lines 64-66; Fig. 1).

Pizano further teaches searching and comparing the generated form map with stored, registered maps in a map storage means. (Pizano, col. 4, lines 58-67.)

Pizano does not specifically teach "*in the absence of any inputted templates for identifying said plurality of documents before processing*", and location information. However AAPA teaches at Specification page 2 lines 15-18, of specifying "a method...by means of a means for the same, of forms whose design and information is not known in advance". Since Applicant admits that the above teaching is well known (Specification page 8 lines s 1-3 "On the whole, the means used in the present invention are well known to a skilled person in the technical field,..."), therefore It would have been obvious to one of ordinary skill in the art at the time of the invention to apply AAPA to Pizano, providing Pizano a way to adaptively recognize a wide variety of forms that do not conform accordingly, making the recognition process more accurate.

Pizano further teaches indicating agreement according to the limits for agreement when agreement is found inasmuch as Pizano discloses form identification as output when a match is achieved. (Pizano, col. 2, line 67 – col.3, line 2.)

**In regard to dependent claim 52**, Pizano does not specifically teach comparing identities from previously processed forms. However, However AAPA teaches at Specification page 2 lines 18-20, and page 7 lines 3-5, of specifying an adaptive method including learning and registering of forms as patterns without filled-in text, with new line keys stored accordingly for future processing. Since Applicant admits that the above teaching is well known (Specification page 8 lines s 1-3 “On the whole, the means used in the present invention are well known to a skilled person in the technical field,...”), therefore It would have been obvious to one of ordinary skill in the art at the time of the invention to apply AAPA to Pizano, providing Pizano a way to adaptively recognize a wide variety of forms that do not conform accordingly, making the recognition process more accurate.

Pizano further teaches indicating agreement according to the limits for agreement when agreement is found inasmuch as Pizano discloses form identification as output when a match is achieved (via comparison). (Pizano, col. 2, line 67 – col.3, line 2.)

**In regard to independent claim 53**, Pizano teaches scanning (*i.e.*, providing) an unknown form(s) on an apparatus. (Pizano, col. 2, lines 64-66; Fig. 1.)

Pizano further teaches generation of a form map based on designs on said unknown form(s) for identifying information contained thereon inasmuch as Pizano’s feature extraction is equivalent to the generation of a form map. (Pizano, col. 2, lines 64-66; Fig. 1).

Pizano further teaches searching and comparing the generated form map with stored, registered maps in a map storage means. (Pizano, col. 4, lines 58-67.)

Pizano does not specifically teach “*in the absence of any inputted templates for identifying said plurality of documents before processing*”, and “*in the absence of fixed forms*”. However AAPA teaches at Specification page 2 lines 15-18, of specifying “a method...by means of a means for the same, of forms whose design and information is not known in advance”. Since Applicant admits that the above teaching is well known (Specification page 8 lines s 1-3 “On the whole, the means used in the present invention are well known to a

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skilled person in the technical field,...”), therefore It would have been obvious to one of ordinary skill in the art at the time of the invention to apply AAPA to Pizano, providing Pizano a way to adaptively recognize a wide variety of forms that do not conform accordingly, making the recognition process more accurate. Regarding said disclosure, it is noted that since the design is not known in advance, Applicant’s initial form can be reasonably interpreted as not being a “fixed form” (no pre-determined format) as far as the receiving apparatus is concerned.

Pizano further teaches indicating agreement according to the limits for agreement when agreement is found inasmuch as Pizano discloses form identification as output when a match is achieved. (Pizano, col. 2, line 67 – col.3, line 2.)

**In regard to independent claim 54**, claim 54 reflects the apparatus comprising computer readable instructions used for implementing the method as claimed in claim 50, and is rejected along the same rationale.

**In regard to independent claim 55**, claim 55 incorporates substantially similar subject matter as claimed in claims 51, and 53, and is rejected along the same rationale.

**In regard to independent claim 56**, claim 56 incorporates substantially similar subject matter as claimed in claim 41, and in further view of the following, is rejected along the same rationale.

Pizano does not specifically teach said storing a document if said document does not coincide with any previously processed document. However AAPA teaches at Specification page 8 lines 30-32, that a form is saved in the map database if said document cannot ultimately be identified (via comparison, etc.). Since Applicant admits that the above teaching is well known (Specification page 8 lines s 1-3 “On the whole, the means used in the present invention are well known to a skilled person in the technical field,...”), therefore It would have been obvious to one of ordinary skill in the art at the time of the invention to apply AAPA to Pizano, providing Pizano a way to recognize a wide variety of forms that do not conform accordingly.

**In regard to independent claim 57**, claim 57 incorporates substantially similar subject matter as claimed in claim 41 and is rejected along the same rationale.

**10. Claims 2, 10, 13-14, 19, 27, 30-31, 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pizano and AAPA, as applied to claims 41 and 45 above, and further in view of Suzuki, U.S. Patent Number 4,933,979 issued June 12, 1990.**

Regarding **dependent claims 2, and 19**, Pizano teaches a component table associated with an image (i.e. a pictorial logo) (Pizano column 18 lines 5-10, Figures 15, 19). Pizano does not specifically teach the generated form map including an “object area list” with objects. Suzuki, however, teaches the storage of information sets for a set of reading areas, which are analogous to object area lists inasmuch as reading areas identify parts of a form and can contain objects such as text or images (Suzuki, col. 6, lines 1-3, 39-46), and provide the benefit of efficient and accurate form recognition. ((Suzuki, col. 17, lines 42-57.) Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply Suzuki to Pizano, providing Pizano the benefit of an object area list for more accurate processing.

Pizano does not specifically teach text and colors. However, Suzuki teaches both the recognition of characters (Suzuki, col. 6, line 66 – col. 8 line 5) and the recognition of different gradations of tones (Suzuki, col. 8, lines 15-44). One of ordinary skill in the art would have recognized that these features provided the benefit of recognizing more and more complex forms. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Pizano and Karnin to include text and colors as objects.

Regarding **dependent claims 10 and 27**, Pizano does not teach the application of horizontal and vertical keys to objects in the object area list. However, in view of Suzuki's use of object area lists, noted above, it would have been obvious to one of ordinary skill in the art at the time of the invention to extend the application of Pizano's use of horizontal and vertical keys, noted above regarding dependent claims 5 and 22, from lines to objects, because one of ordinary skill in the art would have recognized that Pizano's use of line keys in a co-ordinate system was an efficient and accurate way of locating objects.

Regarding **dependent claims 13 and 30**, Pizano does not teach the comparison of a generated object key constituted by a horizontal and/or a vertical key position with a stored object key during a search procedure. However, in view of Suzuki's use of object area lists, noted above, it would have been obvious to one of ordinary skill in the art at the time of the invention to extend the application of Pizano's use of line keys, noted above regarding dependent claims 8 and 25, to object keys because one of ordinary skill in the art would have recognized that such an object key precisely located the position of the object on the form.

Regarding **dependent claims 14 and 31**, Pizano does not teach the sorting of object keys according to a number of markings. However, in view of Suzuki's use of object area lists, noted above, it would have been obvious to one of ordinary skill in the art at the time of the invention to extend the obvious modification of Pizano's method to sort line keys, noted above regarding dependent claims 9 and 26, to sort object keys according to the number of markings because one of ordinary skill in the art would have recognized that the number of markings gave additional weight in the comparison process.

**In regard to independent claim 49**, Pizano teaches scanning (*i.e.*, providing) a plurality of unknown forms. (Pizano, col. 2, lines 64-66; Fig. 1.).

Pizano further teaches generation of a form map based on designs on said unknown form(s) for identifying information contained thereon inasmuch as Pizano's feature extraction is equivalent to the generation of a form map. (Pizano, col. 2, lines 64-66; Fig. 1).

Pizano does not specifically teach said plurality of documents having "*a variety of formats not predefined*", nor does it teach "*containing data in locations not predefined*". However AAPA teaches at Specification page 2 lines 15-18, of specifying "a method...by means of a means for the same, of forms whose design and information is not known in advance". Since Applicant admits that the above teaching is well known (Specification page 8 lines s 1-3 "On the whole, the means used in the present invention are well known to a skilled person in the technical field,..."), therefore It would have been obvious to one of ordinary skill in the art at the time of the invention to apply AAPA to Pizano, providing Pizano a way to recognize a wide variety of forms that do not conform accordingly.

Pizano further teaches searching and comparing the generated form map with stored, registered maps in a map storage means. (Pizano, col. 4, lines 58-67.)

Pizano further teaches indicating agreement according to the limits for agreement when agreement is found inasmuch as Pizano discloses form identification as output when a match is achieved. (Pizano, col. 2, line 67 – col.3, line 2.). Pizano does not specifically teach a "*factor of probability*". However AAPA teaches at Specification page 6 lines 23-24, of specifying "*All candidates are associated with a factor of merit or a probability that they are the current invoice 10*". Since Applicant admits that the above teaching is well known (Specification page 8 lines s 1-3 "On the whole, the means used in the present invention are well known to a skilled person in the technical field,..."), therefore It would have been obvious to one of ordinary skill in the art at the time of the invention to apply AAPA to Pizano, providing Pizano a way to judge the level of agreement for matching forms.

Pizano teaches a component table associated with an image (i.e. a pictorial logo) (Pizano column 18 lines 5-10, Figures 15, 19).

Pizano does not specifically teach text and colors. However, Suzuki teaches both the recognition of characters (Suzuki, col. 6, line 66 – col. 8 line 5) and the recognition of different gradations of tones (Suzuki, col. 8, lines 15-44). One of ordinary skill in the art would have recognized that these features provided the benefit of recognizing more and more complex forms. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Pizano and Karnin to include text and colors as objects.

**11. Claims 15 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pizano and AAPA as applied to claims 41 and 45 above, and further in view of Leung et al. (hereinafter Leung), U.S. Patent Number 5,642,288 issued June 24, 1997, filed November 10, 1994.**

Regarding **dependent claims 15 and 32**, Pizano does not specifically disclose searching resulting a pre-defined number of requested probable candidates for the currently searched form. However, Leung discloses returning a predefined number of matches to the user, for user analysis, in the context of a document recognition and handling system. (Leung, col. 10, lines 1-22.) It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Pizano to include Leung's step of returning a pre-defined number of requested probable candidates for the currently searched form because one of ordinary skill in the art would have recognized that returning too many results would be confusing to the user, and that the more results returned, the less likely that some results would provide a match.



***Response to Arguments***

12. Applicant's arguments filed 12/16/2005 have been fully and carefully considered but they are moot in view of the new ground(s) of rejection. Accordingly, this action is non-final.

Applicant emphasizes on pages 15-16 that the cited art (specifically Pizano) teaches "predefined templates or templates inputted to the system before processing commences." It is respectfully noted that Applicant's Specification teaches the following:

Specification page 2 lines 18-20 teaches "*learning and registering of forms as patterns without filled-in text*".

Specification page 2 lines 21-24 teaches generation of a "*form map*", said form map compared to stored registered maps as a means for identification.

Specification page 4 lines 11-13 teaches registering the "*design of the form*".

Specification page 8 lines 23-26 teaches that if no match with any stored form map is achieved, then the following commences: "...*interpretation 220 is performed in that self-learning with a form definition 224 is accomplished. The form definition consists of a **template** or a set of rules that describes the common elements of a specific collection of forms, for example, Swedish invoices.*" (bolding added).

It is respectfully submitted that a "template" can be fairly interpreted as a general "set of rules" that acts as a "guideline" for analysis. A form map can be fairly interpreted as a type of "predetermined template" providing a basis for comparison. It is predetermined because it has been previously registered accordingly. According to Applicant's Disclosure, if no matches to form maps (templates) are achieved, then a form definition (another template) is used. Some or all of this information must be pre-submitted at some point.

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***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William L. Bashore whose telephone number is (571) 272-4088. The examiner can normally be reached on 11:30am - 8:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on (571) 272-4136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*William L. Bashore*  
**WILLIAM BASHORE**  
**PRIMARY EXAMINER**

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